



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2022-1477; Project Identifier MCAI-2022-00632-E; Amendment 39-22327; AD 2023-03-02]

RIN 2120-AA64

#### Airworthiness Directives; Pratt & Whitney Canada Corp. Turboprop Engines

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Pratt & Whitney Canada Corp. (P&WC) PT6E-67XP model turboprop engines with serial number HP0194 and earlier. This AD is prompted by multiple reports of engines failing to achieve required power (torque) during high power applications due to internal leaks in the bleed-off valves (BOVs). This AD requires replacement of the compressor BOV assembly, replacement of the BOV orifice feed air tube assembly, and installation of a redesigned P3 probe snorkel, as specified in a Transport Canada AD, which is incorporated by reference (IBR). The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### ADDRESSES:

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No.

FAA-2022-1477; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference:*

- For material that is IBR in this final rule, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; phone: (888) 663-3639; email: AD-CN@tc.gc.ca; website: [tc.canada.ca/en/aviation](https://tc.canada.ca/en/aviation).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1477.

**FOR FURTHER INFORMATION CONTACT:** Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7146; email: [barbara.caufield@faa.gov](mailto:barbara.caufield@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain P&WC PT6E-67XP model turboprop engines with serial number HP0194 and earlier. The NPRM published in the *Federal Register* on November 18, 2022 (87 FR 69218). The NPRM was prompted by Transport Canada AD CF-2022-26-E, dated May 12, 2022 (Transport Canada AD CF-2022-26-E) (referred to after this as the MCAI). The MCAI states that there have been

reports of multiple incidents in which engines were unable to achieve the required power (torque) during high power applications. A manufacturer investigation found that contamination from the glass beads used in the manufacturing process during the gas generator casing (GGC) production caused internal leaks in the BOVs, preventing the BOVs from fully closing at high power settings.

In the NPRM, the FAA proposed to require replacement of the compressor BOV assembly, replacement of the BOV orifice feed air tube assembly, and installation of a redesigned P3 probe snorkel, as specified in Transport Canada AD CF-2022-26. The FAA is issuing this AD to address the unsafe condition on these products.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1477.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received no comments on the NPRM or on the determination of the cost to the public.

### **Conclusion**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

**Related Service Information under 1 CFR Part 51**

The FAA reviewed Transport Canada AD CF-2022-26, which specifies procedures for the replacement of the compressor BOV assembly, replacement of the BOV orifice feed air tube assembly, and installation of a redesigned P3 probe snorkel.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

**Costs of Compliance**

The FAA estimates that this AD affects 100 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

### Estimated costs

| Action  | Labor Cost                           | Parts Cost | Cost per product | Cost on U.S. operators |
|---|--------------------------------------|------------|------------------|------------------------|
| Replace compressor BOV assembly   | 5 work-hours x \$85 per hour = \$425 | \$13,102   | \$13,527         | \$1,352,700            |
| Replace BOV orifice feed air tube assembly with P3 probe snorkel and BOV orifice feed air tube assembly | 6 work-hours x \$85 per hour = \$510 | \$22,000   | \$22,510         | \$2,251,000            |

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2023-03-02 Pratt & Whitney Canada Corp.:** Amendment 39-22327; Docket

No. FAA-2022-1477; Project Identifier MCAI-2022-00632-E.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Pratt & Whitney Canada Corp. (P&WC) PT6E-67XP model turboprop engines with serial number HP0194 and earlier, as identified in Transport Canada AD CF-2022-26, dated May 12, 2022 (Transport Canada AD CF-2022-26).

#### **(d) Subject**

Joint Aircraft Service Component (JASC) Code 7230, Turbine Engine  
Compressor Section.

**(e) Unsafe Condition**

This AD was prompted by reports of multiple incidents in which engines were unable to achieve the required power (torque) during high power applications due to internal leaks in the bleed-off valves (BOVs) caused by glass bead contamination. The FAA is issuing this AD to prevent internal leaks in the BOVs, and to prevent the failure of the engine to achieve the required power (torque) during high power applications. The unsafe condition, if not addressed, could result in loss of thrust control and loss of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Except as specified in paragraphs (h) and (i) of this AD: Perform all required actions within the compliance times specified in, and in accordance with, Transport Canada AD CF-2022-26.

**(h) Exceptions to Transport Canada AD CF-2022-26**

(1) Where Transport Canada AD CF-2022-26 refers to hours air time, this AD requires using flight hours.

(2) Where Transport Canada AD CF-2022-26 specifies compliance from its effective date, this AD requires using the effective date of this AD.

**(i) No Reporting Requirement**

Although the service information referenced in Transport Canada AD CF-2022-26 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in § 39.19. In accordance with § 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) of this AD or email to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(k) Additional Information**

For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Transport Canada AD CF-2022-26, dated May 12, 2022.

(ii) [Reserved]

(3) For Transport Canada AD CF-2022-26-E, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; phone: (888) 663-3639; email: AD-CN@tc.gc.ca; website: tc.canada.ca/en/aviation.



(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on February 1, 2023.

Christina Underwood, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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